

WHAT IS CLAIMED IS:

Sub  
a1

1 1. A method for recovering nylon from a nylon-containing material, comprising:  
2 contacting the nylon-containing material with an alkanol-containing solvent at  
3 elevated temperature and at a pressure higher than the equilibrium pressure of the alkanol-  
4 containing solvent at the elevated temperature, thereby dissolving the nylon in the  
5 alkanol-containing solvent;  
6 removing the alkanol-containing solvent containing dissolved nylon from any  
7 undissolved solids; and  
8 decreasing the temperature of the alkanol-containing solvent containing dissolved  
9 nylon to precipitate the dissolved nylon.

1 2. The method of claim 1, wherein the nylon-containing material comprises a floor  
2 covering material.

1 3. The method of claim 1, wherein the nylon is nylon 6,6.

1 4. The method of claim 1, wherein the alkanol-containing solvent is substantially free  
2 of glycols or other polyols.

1 5. The method of claim 1, wherein the alkanol-containing solvent comprises an  
2 alkanol selected from the group consisting of methanol, ethanol, propanols, butanols, and  
3 mixtures thereof.

1 6. The method of claim 1, wherein the alkanol-containing solvent comprises a  
2 mixture of alkanol and water.

1 7. The method of claim 6, wherein the alkanol is present in an amount ranging from  
2 about 40 wt% to about 90 wt% of the solvent.

09852855 "051001  
T00T50" 55825860

- 1 8. The method of claim 7, wherein the alkanol-containing solvent comprises a  
2 mixture of about 80 wt% ethanol in water.
- 1 9. The method of claim 1, wherein the pressure during the contacting ranges from  
2 about 250 psig to about 600 psig.
- 1 10. The method of claim 1, wherein the elevated temperature ranges from about  
2 130 °C to about 155 °C.
- 1 11. The method of claim 10, wherein the elevated temperature is about 145° C.
- 1 12. The method of claim 1, wherein the pressure higher than the equilibrium pressure  
2 of the alkanol-containing solvent at the elevated temperature is attained by introducing an  
3 inert gas into the reactor.
- 1 13. The method of claim 1, wherein the pressure higher than the equilibrium pressure  
2 of the alkanol-containing solvent at the elevated temperature results at least in part from  
3 the pressure head of the alkanol-containing solvent entering the reactor.
- 1 14. The method of claim 1, wherein the nylon-containing waste material comprises  
2 nylon-containing floor covering materials.
- 1 15. The method of claim 14, wherein the nylon-containing floor covering materials  
2 comprise carpet or carpet tile, or mixtures thereof.
- 1 16. The method of claim 15, wherein the carpet or carpet tile contains nylon 6,6.